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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,498	11/24/2003	James A. Hunter	10021.003020 (P0043)	4571
31894	7590	11/23/2005	EXAMINER	
OKAMOTO & BENEDICTO, LLP P.O. BOX 641330 SAN JOSE, CA 95164			TSAI, H JEY	
			ART UNIT	PAPER NUMBER
			2812	

DATE MAILED: 11/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/720,498	HUNTER ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	H.Jey Tsai	2812	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 September 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3 and 5-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3 and 5-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

***Election/Restriction***

Applicant's election without traverse of claims 1, 3, 5-16 in the reply filed on Sept. 22, 2005 is acknowledged.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 5-7, 9-16 are rejected under 35 U.S.C. § 102(b) as being anticipated by Hoshino 4,571,661.

Hosino discloses a method of fabricating an integrated device, the method comprising:

forming a transistor of an integrated device 26/26, fig. 2A,

forming a first protective layer 22 over the transistor,

forming a micro-electro-mechanical system (MEMS) structure over the first protective layer 22, the MEMS structure including a movable element 20 (silicon nitride) that is formed using a deposition process at a temperature of at least about 700 C, col. 4, lines 33-47,

wherein the movable element 20 comprises a membrane of a capacitive micromachined ultrasonic transducer (CMUT), col. 2, 40-55,

wherein the integrated device comprises a wherein the deposition process comprises low-pressure chemical vapor deposition (LPCVD), col. 4, 33-47,

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suspending the movable element 20 over a bottom electrode 24,  
interconnection line 42, 44 by sputtering and low temperature process, fig. 3 col.  
3, lines 33-55,  
etching layer 20 to form capacitive sensor, fig. 3.

Note: patentable weight is not given to the intended use of capacitive sensor in ultrasonic application. The claimed using capacitive movable element sensor for ultrasonic application differs from prior art second capacitor plate only its claimed intended use (for electrically floating ). However, the manner or method of use of a machine isn't germane to the patentability of the machine and process of making itself. A statement of intended use does not distinguish the process of making and structural apparatus claimed over the prior art ref. Ex parte Cullis, 11 USPQ2d 1876 (BPPAI 1989).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claim 8 is rejected under 35 U.S.C 103 as being unpatentable over Hoshino as applied to claims 1, 3, 5-7, 9-16 above, and further in view of Khuri-Yakub et al. 6,430,109.

The difference between the references applied above and the instant claim(s) is: Hoshino teaches forming a movable nitride element and a silicon bottom electrode for a capacitor transducer but does not teach using polysilicon as bottom electrode. However, Khuri-Yakub et al. teaches at fig.2, 3.7 and col. 2, lines 31-67, using a bottom polysilicon electrode layer 21 and a nitride movable element 24 or 34 for a CMUT device.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above references' teachings by using polysilicon layer as bottom electrode for CMUT device as taught by Khuri-Yakub et al. because polysilicon layer is a conductive layer and can be easily deposited on the substrate surface.

Any inquiry of a general nature or clerical matters or relating to the status of this application or proceeding should be directed to the customer service whose telephone number is (703) 308-4357.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to H. Jey Tsai whose telephone number is (571) 272-1684. The examiner can normally be reached on from 7:00 Am to 4:00 Pm., Monday thru Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael S. Lebentritt can be reached on (571) 272-1873.

The fax phone number for this Group is 571-273-8300.

hjt

11/17/2005



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A handwritten signature in black ink, appearing to read 'H. Jey Tsai', is positioned above the printed name.

H. Jey Tsai  
Primary Examiner  
Patent Examining Group 2800